Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

Completed by: Timothy J. Rust

GENERAL INFORMATION:

Name:	Tennessee Valley Authority Paradise Fossil Plant
Address:	13246 State Road 176, Suite 10 Drakesboro, KY 42337
Date application received:	November 17, 2005
SIC/Source description:	4911, Electrical Power Production
Source ID #:	21-177-00006
Source A.I. #:	3239
Activity #:	APE20050004
Permit number:	VS-06-003

APPLICATION TYPE/PERMIT ACTIVITY:

[X] Initial issuance	[ ] General permit
[ ] Permit modification	[ ]Conditional major
__Administrative	[ ] Title V
__Minor	[ ] Synthetic minor
__Significant	[ ] Operating
[ ] Permit renewal	[X] Construction/operating

COMPLIANCE SUMMARY:

[ ] Source is out of compliance [ ] Compliance schedule included

[X] Compliance certification signed

APPLICABLE REQUIREMENTS LIST:

[ ] NSR	[X] NSPS	[X] SIP
[ ] PSD	[ ] NESHAPS	[ ] Other
[ ] Netted out of PSD/NSR	[ ]	Not major modification per 401 KAR 51:001, 1(116)(b)

MISCELLANEOUS:

[X] Acid rain source

[ ] Source subject to 112(r)

[X] Source applied for federally enforceable emissions cap

[ ] Source provided terms for alternative operating scenarios

[ ] Source subject to a MACT standard

[ ] Source requested case-by-case 112(g) or (j) determination

[ ] Application proposes new control technology

[X] Certified by responsible official

[ ] Diagrams or drawings included

[ ] Confidential business information (CBI) submitted in application

[ ] Pollution Prevention Measures

[ ] Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual (tpy)*	Potential (tpy)*
PM/PM_{10}	4773/3310	9603/7165
SO_2	84402	291838
NOx	35879	63546
CO	1641	2543
VOC	361	556
LEAD	1.3	2.4
Modification PM/PM10**		22.0/6.7

*Actual and Potential Emissions taken from 2005 EIS
**Modification PTE calculated from AP-42 and EPA Guidance Documents

MINOR MODIFICATION (VS-06-003):

The Division received an application from Tennessee Valley Authority (TVA) for minor modifications to their Paradise Fossil Plant on November 17, 2005 and April 14, 2006, respectively. TVA proposes constructing a coal fines recovery process to reclaim coal fines from their Coal Fines Pond to blend with coal up to a maximum of 14 percent by weight and use the mixture as fuel in each of their coal fired units. Pan Scrapers are to collect the coal fines from the dewatered fines pond and transport the material to a storage pile located in the coal yard. A front-end loader will transfer the fines to a reclaim hopper that discharges through a screw conveyor to a feed belt that blends the fines with coal on the existing conveyor BC-45. Particulate matter emissions will be controlled by enclosures around the hopper and conveyors and with wet suppression on the yard activities to minimize fugitive emissions. TVA has determined that the annual production capacity of the project is 825,000 tons of coal fines produced. This project, therefore, qualifies for minor revision status due to its particulate matter and PM_{10} emissions Potential To Emit (PTE) being less than 25 tons and 15 tons per year, respectively; the significant net emission rate thresholds established in 401 KAR 51:017, Prevention of Significant Deterioration (PSD) of Air Quality.

TVA operates three coal-fired electric steam generating boiler units for electricity production at its Paradise Fossil Plant in Drakesboro, KY. All three units are equipped with selective catalytic reduction for NOx control. To control particulate matter and SO_2 emissions, Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers. Electrostatic precipitators control particulate matter emissions from Unit 3, which includes using flue gas conditioning when deemed necessary. A flue gas desulfurization scrubber is under construction on Unit 3 with projected start-up in late 2006 The facility also includes coal handling equipment, limestone handling equipment, building heat boilers and heaters, and ash, gypsum, and coal wash plant disposal processes.

EMISSIONS AND OPERATING CAPS DESCRIPTIONS:

The effective capacity of Coal Fines processed through the emission units GACT12 and GACT13 have been determined to be 825,000 tons per any twelve (12) consecutive months total.

For emission unit GACT12, pursuant to 401 KAR 60:005, incorporating by reference 40 CFR 60, subpart Y, visible emissions shall not exceed twenty (20) percent opacity. The permittee shall perform visual observations of the emission points on a weekly basis and if visible emissions are seen, determine opacity in accordance with EPA Reference Method 9.

Pursuant to 40 CFR 60.8, for each emission point in emission unit GACT12, within 60 days after achieving the maximum production rate which the affected facilities will be operated, but not later than 180 days after initial startup following installation, the permittee shall conduct a performance test to demonstrate compliance with the particulate standard. Opacity shall be determined using USEPA Reference Method 9 and the procedures in 40 CFR 60.11. The duration of the Method 9 observations shall be a minimum of 1 hour (ten 6-minute averages) in length.

For emission unit GACT13, pursuant to 401 KAR 63:010, Section 3, no person shall cause, suffer, or allow any material to be handled, processed, or transported without taking reasonable precaution to prevent particulate matter from becoming airborne. Such reasonable precautions shall include installation of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measure to suppress the dust emissions during handling. The discharge of visible fugitive dust emissions beyond the property line is prohibited.

The permittee shall monitor the amount of coal fines processed on a monthly basis and maintain a rolling twelve (12) month total.